USEPA
REGION 4 QUALITY ASSURANCE SECTION
QAPP SUPERFUND DIVISON FINAL CHECKLIST 2007

QAPP Title: SMOKEY MOUNTAIN SMELTERS (SMS) SITE
Project Location: KNOXVILLE, KNOX COUNTY, TENNESSEE
Originating Organization: TETRA TECH, INC.
QAPP Date: 4/16/2009
Receipt Date: 4/16/2009
Review Date: 4/17/2009
Reviewer: MATTHEW HUTSER
EPA Regional Project Manager: JOHN NOLEN / MATT HUTSER
EPA Project Officer: JOHN NOLEN

Topic covered in accordance with requirements: ☒ Yes ☐ No

☐ Yes - Indicates that the topic/element was covered in sufficient detail to meet EPA's requirements as specified in this checklist.

☐ No - Indicates that the topic/element covered in the QAPP does not provide sufficient detail to meet EPA's requirements or the topic is entirely missing from the document.

Element	Meets Requirements ☒ Yes ☐ No
A-1. Title and Approval Page	☒ Yes ☐ No
Title of QAPP	☒ Yes ☐ No
Organization's Name: Both the name of the organization preparing the QAPP and the organization conducting the project or the grantee's name.	☒ Yes ☐ No
Dated Signature of Project Manager: Both the originating organization's PM and EPA's corresponding PM and/or PO.	☒ Yes ☐ No
Date and Signature of Quality Assurance Manager's approval for the originating entity	☒ Yes ☐ No

and for EPA.	
Other Signatures as Needed:	☒ Yes ☐ No
A-2. Table of Contents: Including Tables, Figures and Appendices	☒ Yes [redacted]
A-3. Distribution List: Including Addresses of all entities or agencies requiring copies of the QAPP	☒ Yes ☐ No
A-4. Project - Task Organization	
Identifies key project personnel, specifies technical disciplines, details their roles/responsibilities and details the chain of command	☒ Yes ☐ No
Organization chart provided: Depicts lines of authority, independence (of QA manager), and reporting responsibilities. Org- chart also contains entries for all agencies, contractors and individuals responsible for performing QAPP preparation, sample collection, laboratory analysis, data verification, review and validation, data quality assessment; and project oversight responsibilities.	☐ Yes ☒ No Not necessary
A-5. Problem Definition/Background.	
Clearly states the particular environmental problem to be solved, decision to be made, or outcome to be achieved. Include sufficient background information to provide a historical, scientific, and regulatory perspective for this particular project.	☒ Yes ☐ No
Provides historical and background information concerning prior environmental investigations or assessments performed at the site. Discusses the data collected from these prior investigations and identifies any additional information that may be contained in computer databases (secondary data), etc.	☒ Yes ☐ No

A-6 Project/Task Description	
Provides a summary of all work to be performed, products to be produced, and the schedule for implementation. Lists the actual measurements to be made: Including in-situ field measurements, fixed laboratory measurements, or any other type of information collected as part of the project.	☒ Yes □ No
Cites applicable regulatory standards or criteria such as action limits, ARARs, PRGs, MCLs, risk assessment screening levels, etc. Must provide the actual numerical criteria for the above items.	☒ Yes □ No
Identifies all instruments/equipment needed to conduct project and identifies all key study personnel (field technicians, chemists, risk assessors, engineers, project managers, quality assurance managers, etc.)	☒ Yes □ No
Provides work schedule for all tasks including report preparation, response to comments, etc.	□ Yes ☒ No No schedule required
Identifies all all required reports, records, data reports, quality assurance reports/documents	☒ Yes □ No
A-7. Data and Field Quality Objectives and Criteria for All On-Site and Off-Site Measurement Data	
Provides the Data Quality Objectives in accordance and compliance with EPA's Data Quality Objective Process (EPA-QA/G-4) document. Lists the seven steps of the DQO process and provides the project-specific information pertaining to each of these steps.	☒ Yes □ No
Applies the DQO process to the project study undertaken. Provides the qualitative and quantitative data quality objectives for all aspects of the project. Must provide clearly	☒ Yes □ No

delineated project objectives such as determining the presence/absence of potential contaminants, nature and extent of contamination, determining whether human health is affected. Must provide a list of decisions and alternative actions (remediation, removal, further assessments, no further action, etc.).	
Provides all regulatory standards/criteria as part of DQO process (action limits, ARARs, PRGs, MCLs, etc.) on an analyte by analyte basis. Provides a list of all the critical contaminants/analytes along with with their respective detection limit requirements (for chemical parameters) and QA/QC requirements.	☒ Yes ☐ No cited ☒ Yes ☐ No cited the laboratory standards
A-8. Special Training Requirements and Special Certifications	
Identifies how training needs are determined and lists all training requirements for the project. Specifies whether cetain professionals require a license or certification to perform duties as required by federal or state laws.	☒ Yes ☐ No
Identifies where training records will be maintained	☒ Yes ☐ No
Identifies how any new training requirements are communicated to program/upper management Discusses the importance of QA training and discusses how this training is provided.	☒ Yes ☐ No ☒ Yes ☐ No

A-□. Documentation and Records	☒ Yes □ No
Provides a comprehensive list of the documents and records required for this project (including raw data, field logs, audit reports, QA reports, progress or status reports, analytical data reports, data validation reports/data quality assessments reports.)	☒ Yes □ No
Specifies the turnaround time for laboratory data deliverables (both hardcopy and electronic formats). Provides hardcopy data package content requirements and electronic data requirements	☒ Yes □ No turnaround time specified in Analytical Method Requirements
Provides the retention time and location of study records, reports and formal documents.	☒ Yes □ No
B-1. Sampling Process Design	
Provides a table with type and number of samples required for collection such as surface, subsurface, or groundwater.	☒ Yes □ No
Provides design of the sampling/collection network	☒ Yes □ No
Provides maps or diagrams with sample locations/collection locations and provides table with frequency of sampling events	☒ Yes □ No
Provides the sample matrices slated for collection in the sample table (surface soil, subsurface soil, sediment, surface water, groundwater samples, etc).	☒ Yes □ No
Provides an extensive discussion regarding the rationale for the sampling design. (This also includes a discussion regarding the rationale and relevance of the analytical program).	☒ Yes □ No
Provides a table identifying the chemical parameters/analytes of interest for each	☒ Yes □ No

collected sample along with the required detection limits, regulatory standards/criteria, QA/QC criteria, analytical method number, sample container requirements, sample preservation requirements, sample volume requirements and holding time criteria.	
B-2. Sampling Method Requirements	
Provides the required field sample collection procedures, protocols and methods	☒ Yes ☐ No
Provides a list of sampling/collection equipment (including make and model of equipment).	☒ Yes ☐ No
Identifies on-site support facilities that are available to field staff.	☐ Yes ☒ No N/A
Identifies key study personnel in charge of or overseeing sampling/collection activities	☒ Yes ☐ No
Describes equipment decontamination procedures and requirements. Discusses whether sampling equipment is dedicated or non-dedicated.	☒ Yes ☐ No
Provides table listing sample container requirements and preparation requirements for these containers (if provided by laboratory, clearly states such).	☒ Yes ☐ No
Provides table listing sample preservation requirements (for chemical parameters) and holding time criteria (where applicable).	☒ Yes ☐ No
B-3. Sample Handling and Custody Requirements	
Provides a detail description of the procedures for post sample handling (once the sample has been collected).	☒ Yes ☐ No
Provides a detailed description of the chain-of-custody procedures.	☒ Yes ☐ No

B-4. Analytical Method Requirements	
Clearly identifies the extraction, digestion, analytical methodologies (provides the actual method numbers) to be followed (includes all relevant options or modifications required), identifies the required instrumentation. Provides laboratory SOPs or QAM.	X Yes □ No
Provides validation criteria for non-standard or unpublished methodologies proposed for use for a given study.	□ Yes X No N/A
Identifies individual(s) responsible for overseeing the success of the analysis and for implementing corrective actions if deemed necessary.	X Yes □ No
Specifies the turnaround time for hardcopy and electronic laboratory data deliverables.	X Yes □ No
B-5. Quality Control Requirements	
Identifies the type, number and frequency of procedures and frequency of QA/QC sample collection along with the required QC statistically derived limits for each analyte (for spike samples, internal standards, surrogate spikes).	X Yes □ No
Provides the statistical equations for accuracy, precision, and comparability. Specifies the acceptance criteria for these measurements.	□ Yes X No References SOPs for SESD, Tetra Tech, and EPA
B-6. Instrument or Equipment Testing and Inspection Requirements	X Yes □ No
Provides a list of all in-situ testing instruments and field equipment.	X Yes □ No
Provides the technical criteria by which the field instruments or sampling equipment is checked for acceptable performance.	X Yes □ No

Provides a comprehensive list of the supplies required for the project	X Yes □ No
Identifies the individual(s) responsible for checking and inspecting consumables and supplies	□ Yes X No Assumed as PEAC
Provides the acceptance criteria consumable item, instrument and equipment	X Yes Incomplete, no criteria for consumables
Describes equipment and corrective maintenance practices to ensure that on-site equipment or instruments are performing within the required specifications	X Yes □ No
Identifies the availability and location of spare parts	□ Yes X No references manufacturer
B-7. Instrument Calibration and Frequency	
Identifies all equipment requiring calibration and discusses the frequency of calibration	X Yes □ No
Identifies the calibration requirements for each instrument requiring calibration. (For fixed laboratory this may be in the SOPs or QA manual).	X Yes □ No
Provides the calibration requirements and calibration acceptance criteria for each type of equipment or instrument. (Again for the off-site laboratory this information will reside in the method-specific SOPs and the QA manual).	X Yes □ No
Identifies the type of documentation required for calibrations and instrument checks and discusses how calibrations are traced back to specific instruments for each analytical parameter. (Once again for the off-site laboratory this information will reside in the method-specific SOPs and the QA manual).	X Yes □ No

B-8 Inspection/Acceptance Criteria and Requirements for Supplies and Consumables	☒ Yes ☐ No
Provides a comprehensive list of the consumables such as, solvents, reagents, buffer solutions and other consumables or supplies required for the project.	☒ Yes ☐ No
Provides the acceptance criteria for each of these items.	☒ Yes ☐ No
Identifies those individual(s) responsible for checking/inspecting supplies and consumables.	☒ Yes ☐ No
B-□. Data Acquisition Requirements for Non-Direct Measurements	
Identifies the type and frequency of non-direct measurement techniques for the project (for computer databases, literature searches, etc.)	☒ Yes ☐ No
Clearly identified and describes the limitations of such data	☒ Yes ☐ No
Discusses the rationale for using this data and explains its relevance to the project	☒ Yes ☐ No
Specifies how limitations in this data will be communicated to all end data users and stakeholders.	☒ Yes ☐ No
B-10. Data Management	
Describes the record-keeping, archival and retrieval requirements for hard-copy and electronic information produced during the course of the project.	☒ Yes ☐ No
Provides audit checklists or other standardized forms in an appendix to the QAPP.	☒ Yes ☐ No

Describes data handling equipment and procedures used to process, compile and analyze data (provides a complete list of computer hardware and software needs) - Specifies whether computer databases will have restricted access or will be password protected Discusses how the accuracy of computer databases is assured.	☒ Yes ☐ No
Describes process for assuring that applicable Office of Information Resource Management requirements are satisfied (mainly this is required if the data will be entered into an EPA or other Federal Database)	☒ Yes ☐ No
C-1. Assessments, Audits and Corrective Actions	
Lists the required number, frequency and type of assessments with approximate dates and names of individual(s) responsible for performing these assessments	☐ Yes ☒ No No time for audits
Discusses one or more of the following types of assessments: peer reviews, technical audits, surveillance, management system reviews, readiness reviews, quality system audits, performance evaluations, data quality assessments.	☒ Yes ☐ No
Identifies the individual(s) performing these assessments and discusses the authority and independence of these individual(s) in relation to those being assessed	☐ Yes ☒ No No audits will be performed.
Provides a description of the types of corrective actions that may be instituted to resolve any issues raised during the audit	☒ Yes ☐ No
Discusses where audit findings will be documented and how the audit findings will be communicated to all key project staff, state and EPA personnel responsible for the study	☒ Yes ☐ No

oversight	
C-2. Reports to Management: Identifies the frequency and distribution of the following types of reports:	
Project Status Reports	☒ Yes ☐ No
Results of Assessments or Audits	☒ Yes ☐ No
Results of periodic Data Quality Assessments	☒ Yes ☐ No
QA Audit Reports	☒ Yes ☐ No
Identifies the individual(s) responsible for preparing, reviewing and receiving these reports - discusses the retention time for maintaining such reports	☒ Yes
D-1 & D-2. Data Review, Verification and Validation	
Identifies the guidance documents or SOPs governing the data review, verification and validation processes	☒ Yes ☐ No
Clearly discusses the criteria by which data will be accepted or rejected and provides a comprehensive list of the data flags or qualifiers that will be assigned to non-compliant data points (including the definitions for each of these flags)	☒ Yes ☐ No (Jamaica analysis SOPs)
Describes the process, and provides the criteria by which the data will be assessed for its overall usability and intended purpose.	☒ Yes ☐ No ditto
Identifies the individual(s) responsible for validating the data and identifies the company or consultant for whom they work (Note: EPA recommends using an independent second or third party validator or at least a person that is unaffiliated with the laboratory performing the analyses on site samples).	☒ Yes ☐ No

Identifies how problems associated with the laboratory will be documented and communicated to all end data users and stakeholders (where will the results of the data validation process be documented)	X Yes □ No
D-3. Reconciliation of the Data to the Project-Specific DQOs	
Describes the process by which the on-site and off-site analytical data will be reconciled to the project-specific DQOs (especially if the data is non-compliant)	X Yes □ No
Discusses how limitations in the final data set will be documented and communicated to all end data users and stakeholders.	X Yes □ No
Describes the circumstances under which data would be rejected and removed from the final data set	X Yes □ No
Identifies the individual(s) responsible for reconciling the data to the project-specific DQOs	X Yes □ No
Identifies the SOP or guidance document outlining the DQO reconciliation process	X Yes □ No

Note: EPA's guidance and requirements documents for the DQO process, QAPP preparation, Data Validation and Data Quality Assessments, are located at www.epa.gov/quality. These documents include:

Final QAPP Disposition:

✓ *Approved, no comments*

Signature of Designated Approval Official (DAO) _____

Signature of Section Chief of the DAO _____ 4/21/09

____ *Not Approved, **Address Comments, Submit Revised QAPP to the EPA Designated Approval Official***

References

1. EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, EPA/240/B-01/002 (March 2001).

2. EPA Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4, EPA/240/B-06/001 (February 2006).

Both documents can be accessed at the following website: www.epa.gov/quality - Select guidance from the menu options to the left of the screen.